

IN THE CLAIMS:

Claims 1-20 (Canceled)

21. (Currently Amended) A semiconductor device, comprising:
a buried layer substantially of germanium ~~doped~~ located over a doped substrate, said buried layer ~~doped~~ co-doped ~~throughout~~ with germanium and a another p-type dopant;
a doped epitaxial layer located over said buried layer.

22. (Canceled)

23. (Currently Amended) The semiconductor device as recited in Claim 21 wherein said another p-type dopant is boron.

24. (Previously Presented) The semiconductor device as recited in Claim 21 wherein a dopant concentration of said buried layer ranges from about $1\text{E}15$ atoms/cm³ to about $1\text{E}20$ atoms/cm³, a dopant concentration of the doped substrate ranges from about $1\text{E}14$ atoms/cm³ to about $1\text{E}15$ atoms/cm³, and a dopant concentration of the doped epitaxial layer ranges from about $1\text{E}14$ atoms/cm³ to about $1\text{E}15$ atoms/cm³.

25. (Previously Presented) The semiconductor device as recited in Claim 21 wherein said buried layer has a germanium concentration ranging from about $2\text{E}20$ atoms/cm³ to about

$7E20 \text{ atoms/cm}^3$.

26. (Previously Presented) The semiconductor device as recited in Claim 21 wherein said buried layer has a thickness ranging from about $1 \mu\text{m}$ to about $10 \mu\text{m}$.

27. (Previously Presented) The semiconductor device as recited in Claim 21 wherein said doped substrate, said buried layer, and said epitaxial layer collectively have a thickness ranging from about $2 \mu\text{m}$ to about $20 \mu\text{m}$.

Claims 28-36 (Canceled)

37. (Currently Amended) An integrated circuit, comprising:
a buried layer substantially of germanium located over a doped substrate, said buried layer ~~doped throughout~~ co-doped with germanium and a another p-type dopant;
a doped epitaxial layer located over said buried layer;
transistors located over said doped epitaxial layer; and
interconnects located within interlevel dielectric layers located over said transistors,
which connect said transistors to form an operational integrated circuit.

38. (Currently Amended) The integrated circuit as recited in Claim 37 wherein said another p-type dopant is boron.

39. (Previously Presented) The integrated circuit as recited in Claim 37 wherein said buried layer has a germanium concentration ranging from about 2×10^{20} atoms/cm³ to about 7×10^{20} atoms/cm³.

40. (Original) The integrated circuit as recited in Claim 37 further including additional active and passive devices.